Predicting the future of the anti-circumvention laws in the cloud-computing world

University of Oslo
Faculty of Law

Candidate number: 015486
Supervisor: Dr. Lee A. Bygrave
Deadline of submission: 12.21.2009

Number of words: 15,603

04/02/2010

Content

Abstract

The intellectual property law attempts continually to adapt to new developments in technology. Since the advent of the World Wide Web, digitalization and peer-to-peer sharing technologies, the copyright law fights its greatest curse – online piracy. Piracy causes millions of dollars of losses for the creative industry. Hence the right holders are determined to curb its growth. They pressure the law makers to change the law in order to support their efforts. The most recent legal protection afforded to the industry was the introduction of the anti-circumvention provisions under the Digital Millennium Copyright Act 1998 and the Copyright Directive 2001/29/EC in the U.S. and EU respectively. These new laws established the legal prohibition against the circumvention of any effective technological protections measure that blocks the access to or copying of the protected content. These laws also prohibit manufacturing and distribution of the circumvention devices which have a primary purpose to circumvent these technological measures. In the following essay the author discusses the effectiveness and applicability of the anti-circumvention rules, primarily, in the light of the next stage in the evolution of the Internet – cloud-computing. However, the work also analyses briefly these rules in the context of other issues such as enforcement of foreign judgments. With regard to the effectiveness, the author analyses persisting uncertainties in the interpretation of the anti-circumvention rules and issues related to the enforcement of foreign judgments. As to the applicability of these laws, the author examines contemporary case law on point, together with the role of contract law and technological measures and, finally, the application of fair use doctrine. Moreover, the author provides an example of a cloud-computing service which, arguably, is going to decrease the efficiency and applicability of the anti-circumvention legislation. The name of the service is Spotify and it might well be an answer to the problem of illegal peer-to-peer file sharing. In conclusion, it is submitted that the effectiveness and applicability of anti-circumvention provisions might decrease in the cloud-computing world.

1.Introduction

In our world technology advances faster than anyone could have ever imagined. The millions of users from around the world participate in the greatest of all phenomena – the network of networks – the Internet. The development of personal computers and broadband connection changed the way we communicate. The ease of distribution and reproduction of copyrighted works without any cost or effort gave rise to new risks of piracy. The millions of unauthorised copies are made each day. The web is vast and problems with enforcement of the law are clear. In that respect, the law obviously lags behind the technology.

Nevertheless, legislators constantly try to update laws and respond to the threat born in the information age. The judiciary tries to adapt the legislation to the new circumstances and overcome the new challenges. However, this is a complicated and time-consuming process. The most recent major development in copyright law at a global level took almost a decade of intense negotiations, from the late 1980s until the mid-1990s. The main result of these negotiations was the adoption of the two - so called - Internet Treaties: the WIPO Copyright Treaty[1] and WIPO Performances and Phonograms Treaty[2]. Within this framework, the signatory countries obliged themselves to implement "adequate legal protection and effective legal remedies against the circumvention of effective technological protection measures (TPMs)"[3]. Subsequently, some four years later, these rules were implemented in the legal system of the United States of America (U.S.) and after an additional three years into European Union (EU) law.

The anti-circumvention legislation was introduced into EU law through EC Council Directive 2001/29/EC[4] (Copyright Directive) and into the American jurisdiction through

---

[1] WIPO Copyright Treaty (WCT) adopted in Geneva on 20.12.1996, available at <www.wipo.int/clea/docs/en/wo/wo033en.html > (viewed 18.12.2009).

[2] WIPO Performances and Phonograms Treaty (WPPT) adopted in Geneva on 20.12.1996, available at <www.wipo.int/clea/docs/en/wo/wo034en.html> (viewed 18.12.2009).

[3] See, e.g. WCT Article 11.

[4] Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society (Official Journal No L167, 22.05.2001,10) at Article 6.

the Digital Millennium Copyright Act 1998[5] (DMCA). In the EU the Software Directive[6] has already referred indirectly to the protection of TPMs in computer programs. However, it was Copyright Directive that introduced fully-fledged anti-circumvention provisions into the EU law. The new laws provided for the legal protection of TPMs. The most common instances of TPMs are password protection, copy protection and encryption. TPMs are a form of self-help used by the copyright owners to deny unauthorised access to and uses of their works. It is important to note that the anti-circumvention provisions have indirectly granted the right holders the right to control the *access to* their works. This has changed the nature of copyright law which used to be concerned with the right to control the *use of* the works. The creation of an access right might have a considerable effect on the online world in the future. It could legitimise the access control measures established by the right holders.

It is argued in this thesis that when the Internet takes the next step in its evolution, copyright law may become less relevant to the online world. In particular, the anti-circumvention provisions may become a less effective and less applicable weapon against online piracy. It should be clarified that in the present context "effectiveness" means the capacity of the law to perform its given role – to stop the unauthorised access to or copying of works through circumvention of TPMs. On the other hand, the term "applicability" denotes the extent to which the law is going to be used by its beneficiaries – the right holders – in the performance of the aforementioned role.

The change to the effectiveness and applicability of the anti-circumvention rules could be facilitated by a new phenomenon called cloud-computing. It is contended that on the future cloud-computing platform the right holders might be able to exercise a higher degree of access control through the more advanced TPMs. Thus the new way of computing could give the authors significant advantage over the users. In this world of tomorrow anti-circumvention laws may be replaced with TPMs working in tandem with

[5] Public Law 105-305, adopted 28.10.1998.

[6] Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs (Official Journal No L 122, 14.05.1991, 42), at Article 7(1)(c) protects measures 'that protect a computer program'. In other words, the Software Directive prohibits the unauthorised copying of the computer program. However, it does not introduce the right to control access to the computer programs.

contract law. The contract law could regulate the terms of the access to and uses of the copyrighted works, whilst TPMs could enforce the contractual arrangements. The pay-per-view society proclaimed-by-many could emerge. This world of total enforcement and perfect justice would eliminate the need for right holders to refer to copyright law. As Professor Lessig has observed: "In the well implemented system, there is no civil disobedience. Law as code is a start to the perfect technology of justice.".[7] According to Professor Samuelson, "[t]here may be nothing for copyright to do, except perhaps to serve as a kind of deus ex machina justifying the use of technological and contractual means for protecting works in digital form".[8]

In the following, the author attempts to predict the future of the effectiveness and applicability of the provisions under DMCA and Copyright Directive, primarily, in the context of cloud-computing. However, these provisions are also analysed in the context of other issues such as enforcement of foreign judgments. Although the increased reliance on contract law and TPMs is a crucial element in this discussion, this is not the only set of factors analysed in the thesis.

With regard to the efficiency of the anti-circumvention laws, the author supports his hypothesis with the following arguments. Firstly, it is submitted that the persisting uncertainties in the anti-circumvention legislation might make the enforcement of these laws even more troublesome in the cloud. Secondly, the enforcement of foreign judgments linked to the Internet may be even more problematic to deal with in the cloud. On the one hand, this could decrease the effectiveness of the DMCA and Copyright Directive. On the other hand, this situation could also encourage copyright owners to rely more on self-help mechanisms, namely TPMs, rather than suits under copyright law. This would, again, make the anti-circumvention rules less relied upon.

Furthermore, as to the applicability of the anti-circumvention laws, firstly, it is suggested by the author that the application of the anti-circumvention provisions in some types of

---

[7] Lessig L., "The Zones of Cyberspace", [1996], 48, *Stanford Law Review,* 1403-1411, at 1408.

[8] Samuelson P., "Copyright, Digital Data, and Fair Use in Digital Networked Environments", in Ejan Mackaay (eds.), *The Electronic Superhighway (* 1st ed., Kluwer Law International, The Hague, 1995) at 125.

the contemporary case law may be redundant in the cloud-computing environment. Secondly, it is contended that also cloud-computing itself might facilitate the development of better TPMs. As mentioned previously, it is argued that TPMs working in tandem with contract law might bring around the pay-per-view society. This could in turn mean less reliance on copyright law and greater emphasis on contract law. Thirdly, it is submitted that the use of the provisions under DMCA could depend on the application of the fair use doctrine in the cloud. It is suggested that if the right holders implement the fair uses into their cloud service, it could decrease the necessity of using the anti-circumvention laws because the users would no longer have to circumvent TPMs themselves. They might be satisfied with the fair uses provided by the service itself. Although, in contrast, it could be argued that the copyright holders may not implement the doctrine into their system, hence increasing the use of the law, it is submitted that there are powerful arguments which may compel them to do otherwise.

Lastly, the author gives an example of a cloud-computing service called Spotify which might decrease both the applicability and efficiency of the anti-circumvention laws. According to its founder, the service could provide an alternative to the illegal file sharing over the Internet. It is submitted that Spotify represents the beginning of a new trend in delivering content online. Although it is not a pay-per-view service, it may have similar effects upon the provisions under DMCA and Copyright Directive.

2.Anti-circumvention Provisions

In this section the author analyses briefly the origin and content of the anti-circumvention laws.

2.1. Background

The Internet became a Global Copy Machine and the creative industry was unable to turn this trend around. The balance of power was tipped in favour of users who believe, just as Richard Stallman does[9], that information wants to be free and open source business model is the only solution adaptable to the net.

It has occurred to people like Charles Clark that "the answer to the machine is in the machine".[10] The industry decided not to rely solely on copyright law as means of protection. The copyright owners started to develop TPMs which would create a second layer of protection.

Interestingly, TPMs take many forms. They have no generally accepted definition.[11] They are part of the larger group of digital rights management systems - technologies designed to aid the right holders in the enforcement of their rights. Today, TPMs may be found in DVD players and discs, standard audio and video software players, e-book reading software, operating systems, mobile devices and pay TV decoders. The bright example of the use of TPMs is the Apple iTunes music store. The extensive TPMs used there control whether users can copy or burn songs onto CDs.[12]

---

9 Personal Page of Richard Stallman an American Software Freedom Activist, <http://stallman.org/> (viewed 18.12.2009).

10 Clark, C., "The answer to the machine is in the machine", in Hugenholtz, P.B. (Eds),*The Future of Copyright in a Digital Environment (*1st ed., Kluwer Law International, The Hague, 1996) at 139.

11 In fact, they have many names "Electronic Copyright Management System", "Copyright Management System", "Automated Rights Management", "Electronic Rights Management System", "Intellectual Property Rights Management" etc.

12 <www.apple.com/itunes> (viewed 18.12.2009).

Fortunately, Koelman provided the classification of TPMs that the reader might find useful. He described TPMs as measures that control access, measures that control particular uses, technologies that protect the integrity of a work and TPMs that enable metering of access to or use of information.[13] This category was further divided by Koelman to technologies that control access at the online outlet, TPMs that control access at the level of a user or receiver of the information, measures that control access to an already acquired copy of a work and measures that prevent subsequent access.[14]. It is worth to mention that since all content in the cloud-computing environment may be on servers, in, so called, "cloud", the measures controlling online access could be of the greatest importance to the right holders. In addition, it is argued further in this thesis that TPMs might improve their technical efficiency in the cloud. They may enable a better control over the content online. However, we should leave this discussion for now and continue with the background story.

The various attempts to develop TPMs effective enough to curb the spread of piracy were unsuccessful. For example the software controlling making of copies on CD ROMs was a failure.[15] TPMs were not an obstacle to those technologically able who had skills to circumvent this protection and create tools for the rest of the common user to do the same. Hence the circumvention devices flooded the network rapidly. It occurred to many that, if governments do not intervene and change laws, the technological competition between the industry, introducing more and more TPMs, and pirates, in return, producing more and more devices to circumvent these new measures, would flourish. For that reason various pressure groups lobbied for the introduction of the third layer of protection, namely the legal protection of TPMs. These new laws made illegal to circumvent TPMs that were put in place to protect copyrighted content and to manufacture and traffic in the circumvention software.

---

13 Koelman K.J., Helberger N., "Protection of Technological Measures", in Hugenholtz, P.B. (Eds),*The Future of Copyright in a Digital Environment (*1st ed., Kluwer Law International, The Hague, 1996) at 165-170.

14 *Ibid*.

15 Besek J.M., "Anti-circumvention Laws and Copyright: A Report from the Kernochan Center for Law, Media and the Arts", [2004], *Columbia Journal of Law & the Arts*, 385, at 454.

In the next two sections the author looks closely at the anti-circumvention provisions in DMCA and Copyright Directive. Finally, in the third section in this chapter the author describes the legal implications of the new legislation in relation to copyright law. It is argued that the brand new exclusive right to control access to the copyrighted works in the online world was indirectly implemented in the EU and U.S. jurisdictions. This background information is useful for the further analysis of consequences of these laws in the cloud-computing environment.

2.1.1. The Digital Millennium Copyright Act 1998

The U.S. DMCA contains probably the most detailed anti-circumvention rules.[16] Section 1201 contains the main provisions under the Act. § 1201(a)(1) prohibits circumvention of TPMs that effectively protect the access to a work. Furthermore, § 1201(a)(2) prohibits manufacturing or making available products or service that are "primarily designed or produced for the purpose of circumventing for circumventing" access or copying controls. Moreover, § 1201(a)(2) also prohibits products or services that have only "limited commercially significant purpose" other than to circumvent such measures. The section 1201 protects TPMs designed to control access to a work for any purpose, for instance browsing, watching, listening, or using. These access controls include, amongst other things, encryption and scrambling. The copying control is for instance the Serial Copy Management System which prevents reproduction of the works without the permission of the right holder.

Interestingly, section 1201 does not prohibit the act of circumvention itself. It does not prevent a person from circumventing a copy control technology that effectively protects the rights of the copyright holder. It is vital to emphasize that only circumvention of TPMs that control access is prohibited.

[16] Esler B.W. , "Protecting the Protection: A Trans-Atlantic Analysis of the Emerging Right to Technological Self-Help", [2003], *The Journal of Law and Technology*,553, at 554.

Furthermore, DMCA also contains seven exemptions from these legal protections: (1) the browsing privilege of nonprofit libraries, archives and educational institutions; (2) law enforcement and government activity for the purpose of investigation, protection, information security, or intelligence; (3) reverse engineering; (4) encryption research; (5) minor protection; (6) personal identifying information; and (7) security testing.[17] These are similar to the compulsory exceptions under the Copyright Directive.[18]

2.1.2. Copyright Directive 2001/29/EC

In the European Union the Council introduced the Information Society Directive on December 22, 2002. The Article 6 deals with the legal protection of TPMs. It imposes an obligation on the member states to implement the provisions contained in the Article 11 of WCT and Article 18 of the WPPT.

The first two sections in the Article 6 are similar in the scope to the sections 1201(a)(1) and 1201(b)(1) of the U.S. Copyright Act. However, there are important differences. Firstly, the Article 6(1) requires that the offender commits the prohibited acts "knowingly or with reasonable grounds to know". In contrast, section 1201 does not demand any state of mind in respect of the prohibition on circumvention. Therefore it may appear as a stronger provision. Secondly, these legal instruments differ as to what is regarded a technological measure in the Europe, as oppose to the U.S.. The Article 6(3) does not distinguish between TPMs that control access and those which control copying of the protected works. In contrast, DMCA only outlaws the circumvention of the access controls. In other words, the Directive, unlike DMCA, prohibits the act of circumvention itself. It is worth to note that Article 6(3) as well as section 1201 also requires for TPMs to be "effective" before being granted the legal protection against circumvention.

What is more, the Article 6(4) of the Copyright Directive which is concerned with the exceptions to the anti-circumvention provisions differs significantly from DMCA. The

[17] DMCA, at § 1201(d)-(j).
[18] Copyright Directive, at Article 6(4).

Copyright Directive does not introduce exceptions to Article 6(1) in the traditional sense. The European law, unlike American law, imposes an obligation on the right holders to provide for the exceptions in the section 4. This new approach shall be discussed further in the thesis. These exceptions are reproduction on paper or any similar medium Article 5(2)(a), private use Article 5(2)(b), acts of reproduction made by publicly accessible libraries Article 5(2)(c), ephemeral recordings of works made by broadcasting organisations Article 5(2)(d), reproductions of broadcasts made by social institutions pursuing non-commercial purpose Article 5(2)(e), uses for the benefit of people with disability Article 5(3)(b), use for the purposes of public security Article 5(3)(e).

In addition, the Recitals to the Directive provide certain other exceptions to the legal protection of TPMs. Recital 48 states that this protection "should not hinder research into cryptography". Recital 50 clarifies that the anti-circumvention laws do not apply in relation to the computer programs, which are dealt with under different Directive 91/250/EEC. Finally, Recital 51 provides that "the legal protection of TPMs applies without prejudice to public policy, as reflected in Article 5, or public security."

2.1.3. Access Right

Neither DMCA nor Copyright Directive grants expressly the right of access to the right holders. Similarly, the Internet Treaties do not mention it directly.[19] However, it maybe be argued that the provisions on the legal protection of TPMs in the EU and U.S. established the right to control access to the protected works indirectly.[20] The new laws achieve this by introducing the legal prohibition on the circumvention of TPMs that control access to the copyrighted content. In past, copyright law was mainly concerned with protecting the exclusive *uses of* the copyrighted works. Today, the right holders may legitimately exclude users from obtaining *access to* their works. This is a crucial development for the digital world.

---

[19] See WCT, Article 11 & WPPT, Article 18.

[20] Ginsburg J.C., "Copyright Legislation for the Digital Millennium", [1999],23, *Columbia-VLA Journal of Law & the Arts,* 137, 140-43, at 147-48.

Indeed, Professor Ginsburg argues that it is hard to imagine how the copyright holders could maintain their exclusive rights in the online world but for access right.[21] She argues that without the access right "a twenty-first century copyright regime...would be unrealistic and incomplete"[22]. In order to control the exploitation of works online, one has to be able to control which users are able to access them. The copyright owner should have the legal capacity to impose terms and conditions on which access is made. Otherwise anyone could reproduce and distribute a work once it would be put on the Internet. It is argued that without DMCA and Copyright Directive which legitimise the access control, it would be difficult to imagine how right holders could exclude the unauthorised use of their works.

Finally, the development of the exclusive right of access in combination with cloud-computing might facilitate the creation of the pay-per-view society. As mentioned already, thanks to the legal protection against the circumvention of TPMs, the copyright owners can legitimately control access to their works in the cloud. Additionally, they can use the terms and conditions of their end user licenses to control every way in which their works can be exploited. The right holders could even define how many times we could listen to a song or play a movie. This gives them more control than they have ever had in the past. Their power goes beyond what copyright law has ever allowed for. This, arguably, could change copyright law into the access right regime.

[21] Ginsburg J.C., "From Having Copies to Experiencing Works: the Development of an Access Right in U.S. Copyright Law", [2003], 50, *Journal of the Copyright Society of the USA*, 113, at 123.
[22] *Ibid.* at 116.

3.Cloud-computing

As Nicholas Carr discussed, the shift to "cloud-computing" may change the way we communicate.[23] The way the Internet operates. The way we use it. This recent phenomenon is still in its infancy. However, the potential effects that it might have in the future online environment are immense. It is contended by the author that the cloud-computing technology may affect the efficiency and applicability of the provisions on the legal protection of TPMs.

In this section the author describes this new emerging technology of computing and its relationship with TPMs. Hopefully, the analysis shows the link between the new laws and the new idea of computing in the cloud.

Nevertheless, first of all, it is worth to recall briefly the evolution of computing as well as the Internet since its inception. That way a reader will be able to appreciate much better the changes that have taken place and, most importantly, changes that are about to unveil in the online world.

The computing started with the stand-alone personal computers where operating system, word processing system, database software are stored on a single device.[24] The Internet began as a one-way communication medium. It was primarily used by the computer scientists and engineers. With the invention of World Wide Web, the net entered the next stage in its evolution. It focused on users getting more involved in what is going on in the digital world. The Internet became a two-way communication medium. You could get engaged in the discussions on the Internet forums, create your own blog, post comments on your favourite articles, make your own website and so on. It is suggested that thanks to the exponential growth in the advancement of technology, which brings us more

[23] Carr N., *The Big Switch: Rewiring the World, from Edison to Google,* (1st ed., W.W. Norton & Company, Inc, New York, 2008) at 21-23.

[24] Cavoukian A., "Privacy in the clouds", [2009], Vol. 1, No. 1, *Identity in the Information Society,* 89-108, at 92.

reliable and affordable broadband access, the Internet is approaching the third level in its development. The network may no longer be only a communication medium, it could become a computing platform. In other words, it would become a one enormous supercomputer. The future is called cloud-computing and is considered a "fast-growing and potentially enormous new market."[25]

It implements, amongst other things, the following concepts: infrastructure as a service, platform as a service and software as a service. It takes computing away from your home and puts it on servers. In fact, Google plans to launch a new cloud platform that "could kill off the desktop computer."[26] Thanks to the remote storage of all software and hardware a person might just need a simple access terminal to carry around. A user could be able to access all information online, anywhere in the world and at any time. It does not matter whether you are jogging on the beach in South Africa, having a coffee in the restaurant in China or seating at your home in New York. You have the world's information at your fingertips. You may just need your mobile phone which could perform the role of a personal computer. The contemporary examples of the cloud-computing technology are Facebook.com and YouTube.com. They can be accessed through mobile phones like iPhone. In fact, iPhone is one of the first popular tools that are a sign of a new emerging trend in mobile computing.

Furthermore, it is worth to note briefly the vital benefits that this technology is going to give us.[27] This should explain to a reader why the idea of cloud-computing is so appealing as a next potential step for the online world to take. First of all, it brings unlimited flexibility. It would allow users to access unlimited number of software applications, customise them and, therefore, deliver a better result. Secondly, it gives better reliability and security. A person does not have to worry about the maintenance and security of his or her personal computer. The data that is stored in one place by the

---

[25] See Google Docs Tour, Share and Collaborate in Real Time, available at <www.google.com/google-d-s/tour2.html> (viewed 18.12.2009). Moreover, Microsoft has also announced the introduction of a new cloud platform – Azure. It has already spent billions of dollars to implement it. See Romano B.J., "New Computing Strategy Sends Microsoft to Clouds", *Seattle Times*, 28.10.2008, at A10.

[26] Smith D., "Google Plans to Make PCs History", *The Observer*, 25.01.2009, at 22, available at <www.guardian.co.uk/technology/2009/jan/25/google-drive-gdrive-internet> (viewed 18.12.2009).

[27] Supra note 24 at 92.

third party, namely the cloud service provider, might be better protected due to the potential contractual liability that the provider may incur, if the information is poorly secured. Thirdly, the computing in the cloud brings greater portability. Anyone using a cloud service may access any application anywhere and at any time. Finally, due to the operating system and software being stored on a server, users do not need powerful personal computers to carry around. They may use their mobile phones[28] or PDAs[29] to access the online content. Clearly, this could make the Internet access even more affordable than today.

3.1. Technological Measures

As mentioned above, content when placed on servers, arguably, is easier protected than when it is given to a user on a CD ROM or downloaded to a personal computer. The security experts comment that when data is moved into the cloud, encryption and key management could be very efficient security practices.[30] In other words, it is argued that the performance of TPMs may improve in the cloud. Moreover, in the cloud-computing future control is shifted from the individual to the mainframe administrator in the cloud. It could mean that a fewer gatekeepers may be able to better control activities online.[31] Therefore this "newly recentralized computing architecture"[32] may provide a better answer to the online piracy than anything else we have experienced in the past.

This could enable copyright holders to try and start “building their own fences” once again. The right holders might be able to use technology to safeguard the copyrighted

[28] In Japan, for the first time in the history the sale of desktop computers levelled off, whilst the sale and use of mobile phones continues to grow.

[29] Thanks to Amazon's new e-reader Kindle users are able to buy and download books, magazines, journals and other texts directly to their Kindles. There is no need to use personal computers in the process. Similarly, Apple's iPod Touch incorporates Wireless Network Connectivity which makes it possible for users to download music and videos from the iTunes store. There is again no need to use personal computers in order to do it.

[30] Foltyn M., “The Cloud Offers Promise for Storage Users”, *Enterprise Storage F.*, 10.12.2008, available at <www.enterprisestorageforum.com/ipstorage/features/article.php/3790381> (viewed 19.12.2009).

[31] Boone M.S., “What Ifs and Other Alternative Intellectual Property and Cyberlaw Stories, The past, present, and future of computing and its impact on digital rights management”, [2008], *Michigan State Law Review*, 413 at 423-425.

[32] Gilder G., “The Information Factories”, *WIRED*, 14.10.2007, at 181, available at <www.wired.com/wired/archive/14.10/cloudware.html> (viewed 19.12.2009) The short abstract to this article announces, "The desktop is dead. Welcome to the Internet cloud.".

works from the unauthorised access. Therefore Cloud-computing in combination with contract law and access right granted to the copyright owners has a potential to become a powerful weapon in the arsenal of the creative industry. These developments may become a beginning of the widely proclaimed in the past pay-per-view society. More importantly, it is submitted that this new situation may affect the effectiveness and applicability of the anti-circumvention laws. These implications shall be discussed in the next chapter.

4.Prediction For The Future

We can recall the words of John Perry Barlow, the renowned prophet of the Internet and founder of the Electronic Frontier Foundation, who claimed that in the digital future `everything you always knew about intellectual property is wrong'.[33] Indeed, it is argued that cloud-computing brings new problems and may require further changes to the system of intellectual property law. However, it is doubtful whether everything that we knew about the intellectual property law, in particular copyright law, is wrong. As the new provisions under DMCA and Copyright Directive show, law is capable, at least to some extent, to provide a response to the online piracy. The most notable example of that claim is the introduction of the access right for the right holders. As said already, without the legal support in the new laws, the exclusive rights of the right holders would be impossible to maintain in the digital world. Thus copyright law could survive in the digital world. However, it is suggested that its effectiveness and applicability may change.

In the remaining part of this chapter the author analyses effectiveness and applicability of the legal protection of TPMs in the context of cloud-computing and enforcement of foreign judgments. It is the author's contention that the anti-circumvention laws may be less effective and applicable in the future.

4.1. Effectiveness

In the first section of this chapter, two arguments are presented in favour of the thesis that the effectiveness of the anti-circumvention laws may decrease in the cloud-computing environment. The first section titled "Uncertainties in the Law" is related to the lack of clarity in the interpretation of the provisions under DMCA and Copyright Directive. The

[33] Barlow J.P., "The Economy of Ideas: A Framework for Rethinking Patents and Copyrights", 2.03, *Wired*, 03.94, at 84.

second section named “Enforcement of Foreign Judgments” concerns the issues related to the international protection of copyright law.

4.1.1. Uncertainties in the Law

The legislation on the legal protection of TPMs in the U.S. and EU was widely criticised as complex, confusing and uncertain.[34] It is the author's contention that the persisting issues with interpretation of the anti-circumvention laws may affect their efficiency in the cloud-computing world. How effective can law really be, if we cannot even understand or predict its consequences?

4.1.1.1.A New Copyright Law?

First of all, there is still a fundamental confusion as to whether or not the anti-circumvention laws are part of copyright law or create a new kind of law. This lack of clarity should not be trivialized because it may have adverse consequences upon the application of the copyright exceptions and limitations to these laws. Hence it could affect the rights of millions of users of the copyrighted works. Professor Ginsburg claims that the access right created indirectly by the provisions on the legal protection of TPMs is an integral part of copyright and, therefore, should be subject to exceptions and limitations analogous to the other exclusive rights.[35] On the other hand, other commentators suggested that the new anti-circumvention laws are separate from copyright law.[36] It is argued, for example, that existence of the separate list of exceptions for the anti-circumvention laws suggests that these laws do not protect the exclusive rights of copyright holders. Instead, this could mean that the new laws grant the right holders the new free-standing “access right”.[37] Hence the exceptions and limitations under copyright law do not apply. Therefore the fair use doctrine in the U.S., arguably,

---

[34] Supra note 14 at 393.

[35] Supra note 21 at 113.

[36] Koelman, K.J., "A hard nut to crack: the protection of technological measures", [2000], Vol. 22. No. 6, *European Intellectual Property Review*, 272, at 275-276.

[37] Favale M., “Fine-tuning European Copyright Law to strike a balance between the rights of owners and users”, [2008], *European Law Review*, 687, at 688.

would not be of use as a defence in the lawsuit under DMCA as well.[38] All in all, it has to be said that the exact nature of the access right and the applicable exceptions is still debated among scholars and judiciary in the EU and the U.S..

In conclusion, if this uncertain situation continues, it could affect the efficiency of the anti-circumvention laws in the cloud. These laws may be applicable, however, the extent to which they would be able to help the right holders' position depends on how these laws would be affected by the copyright limitations.

4.1.1.2.What is an "effective technological measure"?

The legislation protects only TPMs that "effectively" control access to or the copying of a work. Unfortunately, it is not explained what that term exactly means. However, it is suggested that TPMs are considered effective, if they prevent users from ordinarily obtaining access to a work without authorization. In other words, the ability to infringe copyright has to be limited.[39] The Copyright Directive defines the effective TPMs as these "which achieve the protection objective".[40] Naturally, it does not mean that technological measure must be infallible and impossible to circumvent in order to obtain legal protection.[41] Otherwise every measure that would have been circumvented even once, would automatically fail for the requirement of effectiveness and, consequently, would not be protected under the law. Indeed, in *Universal City Studios v. Reimerdes*[42] the U.S. court rejected the argument by the defendants that the encryption in that case was not an effective technological measure because it was technically "weak". It was held that the statute would be meaningless, if it protected only successful technological measure.[43]

---

38 Braun N., "The Interface between the protection of technological measures and the exercise of exceptions to copyright and related rights: comparing the situation in the United Stated and the European Community", [2003], *European Intellectual Property Review*, 496, at 497.

39 Supra note 12 at 175.

40 Copyright Directive, Article 6(3).

41 Supra note 38 at 499.

42 111 F. Supp. 2d 294 (S.D.N.Y. 2000), aff'd sub nom. *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001).

43 Ibid., at 317-318.

Moreover, it would seem obvious that there is an agreement on whether a particular system is an "effective technological measure". However, nothing is more misleading. There is an international disagreement as to whether for instance regional access coding (RAC) is within the scope of the anti-circumvention legislation. In *Kabushiki Kaisha Sony Computer Entertainment Inc v Ball* [44] Mr Justice Laddie in the English High Court, without any real discussion, established that RAC in the Sony's PS2 was an effective technological measure within the meaning of the section 296ZF of the Copyright, Designs and Patents Act 1988. His Honour held that since the RAC was designed to "prevent unauthorised use of Sony's copyright work in a way which would amount to an infringement of copyright"[45], it was a technological measure. Therefore the production and sale of "mob-chips" was in breach of anti-circumvention legislation. In contrast, in *Eddy Stevens v. Kabushiki Kaisha Sony Computer Entertainment et al.*[46] the Australian High Court supported the view that RAC in Sony's PS2 is not a technological measure under section 10(1) of the Australian Copyright Act 1968. It was held that RAC was designed merely to deter or discourage the infringement of copyright in PS2 games, not physically prevent acts of infringement. In other words, discouraging of copying was not sufficient. Moreover, it was said that the non-copyright purpose of RAC, namely to enforce global market price differentiation, should not be taken into account in interpretation of the copyright legislation.[47]

All in all, it is clear from the above case law that there is a split in opinion as to what may constitute an "effective technological measure". English law, as oppose to Australian law, seems to lean towards broader definition of a technological measure which, arguably, includes systems that merely deter or discourage the copyright infringement but do not actually prevent it. It is enough that RAC prevents the unauthorised use of the copyrighted work which would lead to the infringement of copyright later. The "unauthorised use" in this context denotes the act of evading the global market price differentiation. Thus, it could be contended that His Honour took into consideration the

---

44 [2004] EWHC 1738 (Ch).
45 *Ibid.*, at (para.) 39.
46 (2005) 224 CLR 193.
47 Ibid., at 243,255.

very non-copyright purpose that was expressly rejected by the Australian High Court. It is argued that English law tipped the balance of rights towards the copyright owners.

It is suggested that the uncertainty could remain since the legislation has to be determined on case-by-case basis. It is argued that this problem may be even further complicated by the cloud-computing technology which could introduce even more international system on the Internet. In the future, the RAC could be based solely in the cloud. The cloud service may be accessible in England but not in Australia. Is the English anti-circumvention law going to be enforced against the circumvention of the RAC used in that particular service following the above precedents? It is unclear. In such a case, the efficiency of the English implementation of the Copyright Directive could be affected.

4.1.1.3.What does “circumvention” mean?

In order for the anti-circumvention rules to be an effective tool against the unauthorised circumvention of the access or copying controls, the right holder should know what is actually meant by the term “circumvention” itself. Hence he or she could structure its business accordingly and avoid disappointment in the court room. Otherwise what is the point of having laws which are so uncertain that we do not exactly know what they do or how they can help us?

Unfortunately, there is no definition of what is an act of “circumvention” in the Copyright Directive. Moreover, there is no case law by the Court of First Instance (CFI) or European Court of Justice (ECJ) explaining the meaning of that term either. Therefore we have to look to the American jurisdiction for the guidelines. According to Section 1201(a)(3)(A), “circumvention” means "to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner.”. However, it is argued that this definition provides only a broad understanding of what is only technologically meant by an act of circumvention. Thus, it is crucial to refer to the U.S.

case law in order to see whether or not the court was able to provide a legal explanation and limits for the above definition.

In *Studios v. Metro-Goldwyn-Mayer Studios*[48] the defendant, Studios, claimed that its software does not "circumvent" the technological protection of CSS on the claimant's DVD. It was argued that Studios had authority of the copyright holder to bypass this system solely due to the fact that the DVD was purchased by Studios. However, the court disagreed with Studios. It was held that buying a DVD does not give a buyer the authority to decrypt CSS.

In contrast, the defendant in C*hamberlain Group v. Skylink Technologies*[49] was more successful in avoiding liability under section 1201 by claiming that circumvention was authorised by the other party. The claimant, Chamberlain, argued that the defendant's, Skylink's, universal remote transmitter "circumvents" the access control on the software in the receiver of Chamberlain's garage door opener. The court disagreed with the claimant and held in favour of Skylink. It was held that Chamberlain tacitly authorised the circumvention because of the lack of notification given to consumers regarding the fact that they were only limited to the claimant's manufactured replacement transmitters.

Moreover, in *IMS Inquiry Management Systems v. Berkshire Information Systems*[50] the claimant, IMS, used to license the access to an online service called "eBasket" which was protected by a unique user ID given to each client. The defendant, Berkshire, allegedly obtained that user ID and a password issued to one of the clients. Subsequently, Berkshire used it to access and copy the WebPages from the eBasket service. Although the court agreed that the password protection system operated on the online service in question was indeed a technological measure protected under the law, the defendants actions did not qualify as "circumvention" under section 1201. It was held that obtaining a password and user ID from a third party did not "descramble, decrypt, avoid, bypass, deactivate or impair" a technological measure. This case was distinguished from *Universal City*

48 No. C02-1955 SI, 2004 U.S. Dist. LEXIS 2771 (N.D. Cal. Feb. 19, 2004).
49 381 F.3d 1178 (Fed. Cir. 2004).
50 307 F. Supp. 2d 521 (S.D.N.Y. 2004).

Studios v. Reimerdes due to the fact that in the latter case the defendant used an actual circumvention device to gain access to the protected work. On the other hand, Berkshire simply used a valid user ID and password from one of the legitimate clients of IMS.

To conclude, it should be clear from the above that the definition of "circumvention" under section 1201 is uncertain. It could remain as such, just as the meaning of an "effective technological measure". It is submitted that the lack of clarity may even worsen in the cloud-computing world where new TPMs could raise new ways of circumvention of these measures. Hence it could create new legal problems for the judiciary. The current state of affairs could affect the efficiency of the anti-circumvention legislation. As suggested in the beginning of this sub-section, these rules may not help the copyright holders to structure their business in the cloud in a way that would protect their works against the unauthorised access and copying. Therefore the anti-circumvention laws could fail to fulfil its role.

4.1.1.4.How to determine "a primary purpose" of the device?

The anti-trafficking rules in section 1201 (a)(2) of DMCA and Article 6(2) of Copyright Directive, as described in the previous chapter, are very similar in their scope. Both provisions only prohibit manufacturing and distribution of devices which have "a primary purpose" of enabling or facilitating the circumvention of TPMs. Unfortunately, again, there is no case law in the EU from the CFI or ECJ on how to determine "a primary purpose" of a circumvention device. Therefore, again, we have to turn to the U.S. jurisdiction for help.

In *RealNetworks, Inc. v. Streambox, Inc.*[51] the defendant, Streambox, developed software which enabled the access to and copying of the content contained on the RealServer. However, the files on that server were put on there only for streaming using the RealPlayer but not for copying them. It was held that the software from Streambox was designed primarily, if not exclusively, to circumvent TPMs protecting the access to and

[51] 2000 U.S. Dist. LEXIS 1889.

copying of the content provided by RealNetworks's system. In addition, the court said that the software in question had no other significant commercial purpose but to circumvent the claimants' system. Importantly, in that case the judiciary stated that DMCA employs the brand new test for determining whether or not a device is prohibited under section 1201. The old test was introduced by the court in *Sony Corp. of America v. Universal City Studios*[52] where it was held that time-shifting broadcast television programs by consumers using Sony's Betamax video tape recorder was a fair use. It was stated there that the video tape recorder in question had a "substantial non-infringing use" that justified its distribution.[53] In contrast, in RealNetworks case a common law "substantial non-infringing use" test was replaced with the statutory test - "a primary purpose" test.[54]

Although this judgment clarifies the situation to the extent that now we have only one statutory test to determine the scope anti-trafficking provisions, the new test itself does not bring any more certainty than we had already before under the judge-made test. Therefore everything is again left to the courts to be determined on the ad hoc basis. This could impact on the efficiency of the anti-circumvention laws. If these laws are not able to determine in advance which devices are permitted and which are prohibited by the law, users may disregard the anti-trafficking prohibition altogether. In the future, they may need certain type of circumvention devices which would allow them to benefit from the copyright exceptions. It is argued that they may not sacrifice their privileges due to the uncertainty in the statute. Naturally, this would lead to both the ability of users to benefit from the exceptions to copyright law as well as to the violations of the anti-circumvention laws. Hence the law would fail to fulfil its role once again.

52 464 U.S. 417 (1984).
53 *Ibid.,* at 442.
54 Supra note 51 at (paras.) 21-23.

4.1.1.5.What does Article 6(4) of the Copyright Directive actually mean?

The Article 6(4) from the Copyright Directive contains limitations to the anti-circumvention laws from the preceding sections of that very Article. Although the Recitals to the Directive provide some limits to the scope of the Article 6(4), the provision is, arguably, extremely complicated and difficult to reconcile. Its effects are still uncertain today.

It is argued by some that it introduces a novel approach to the way the copyright exceptions are to be provided for in the anti-circumvention legislation. Unlike DMCA, it is submitted that the Article potentially imposes a more demanding standard of compliance with the copyright limitations on the right holders.[55] Under DMCA the right holders may remain passive as to the implementation of the copyright limitations. Moreover, these can only be untilised in support of the defence to the infringement action in court. Therefore DMCA makes the actual application of the copyright exceptions to the new system largely uncertain. Both users and the copyright owners may have to litigate in order to determine the extent of their rights. On the other hand, under Directive the right holders have the positive duty to make available the exceptions under Article 6(4). This approach could make it easier for users to benefit from these exceptions. However, users are limited only to the seven exceptions contained in the section four of the Article 6. In addition, it is even unclear whether they could be able to benefit from the lucky seven exceptions that were left from the 22 stipulated in the Article 5.

First of all, the member states are not required to take appropriate measure in respect of all of the copyright exceptions to the right of reproduction included in the Article 5 of the Directive. The Directive provides in that regard interesting system of hierarchy of importance of different limitations.[56] It is argued that this kind of approach is totally arbitrary. For instance it remains a great mystery of the Directive why it permits for the circumvention for research purposes but prohibits the circumvention for purposes of

[55] Supra note 38 at 499.

[56] Bechtold S., "Digital Rights Management in the United States and Europe", [2004], *American Journal of Comparative Law*, 323, at 377.

criticism or parody.[57] The most important are the "seven exceptions" contained in the paragraph four of the Article 6. The member states are obliged to make these exceptions available to the beneficiaries in the absence of a voluntarily agreement between the beneficiaries and the right holders. On the other hand, in regard to the privilege to make copies for private use, the member states are not obliged but entitled to take such action. Finally, in respect of the third set of copyright limitations including ability to make quotations for purposes of criticism, review or parody, the member states are not even entitled to take such action. Notably, even the exception regarding temporary copies is in this category.[58]

Secondly, it is submitted that the Article in question gives priority of contractual arrangements over copyright law. It is argued that the copyright owners may be able to introduce a contractual waiver of the seven exceptions provided in the paragraph four of that the Article.[59] It is suggested that the member states shall take appropriate measures to ensure that the exceptions are made available to the beneficiaries only "in the absence of voluntary measures taken by right holders, including agreements between right holders and other parties concerned. . . .". Hence it could be argued that the right holders providing the pay-per-view type services protected by TPMs are not under the obligation to make available the copyright exceptions to their users. The critiques of this approach simply ask: "why bother even including limitations on copyright if they can easily be written out of the law by contract?"[60] There is no answer to this question. It is even uncertain whether or not the member states can prescribe the limitations under the Article, if the right holders have already entered into a voluntary contract with the

---

[57] Dusollier S., "Tipping the Scale in Favor of the Right Holders: the Anti-Circumvention Provisions", in Becker E., *Digital Rights Management: Technological, Economic, Legal and Political Aspects*, (1st ed., Springer, Berlin, 2003) 462-478, at 466-467.

[58] If a technological measure blocks the ability of the users to make temporary copies, which are omnipresent over the web, the member states cannot intervene, despite the fact that the exception relating to the privilege to make temporary copies is the only mandatory exception in Article 5(1) from the Copyright Directive. See Spindler G., "Europäisches Urheberrecht in der Informationsgesellschaft", [2002], *Gewerblicher Rechtsschutz und Urheberrecht*, 105, at 117.

[59] MacQueen H., Waelde Ch., Laurie G., *Contemporary Intellectual Property: Law and Policy* (1st ed., Oxford University Press, Oxford, 2007) at 163.

[60] Carter E.L., "Harmonisation of Copyright Law in response to technological change: lessons from Europe about fair use and free expression", [2009], *University of La Verne Law Review*, 312, at 339.

beneficiaries and the terms and conditions of that contract deal with the exceptions in one way or another.[61]

Interestingly, some commentators even went so far as to suggest that, in reality, the true purpose of Copyright Directive is not to approximate the national laws of the member states but to create a wide notion of contractual freedom.[62] Supposedly, this is done to reinforce the business model in which restrictive measures are part of the agreement that eliminates the need for the member states to get further involved with anti-circumvention rules.[63]

4.1.1.5.1. Implementation of the Article 6(4)

Due to the fact that the Article 6(4) is a centre of so much debate, it is, therefore, extremely important to see how the member states dealt with the implementation of that provision. It is submitted that the effectiveness of the legal prohibition on circumvention depends on how the signatory states handled the aforementioned uncertainties in the interpretation of the crucial section four.

In Greece,[64] Article 66A of the Law on Copyright, Related Rights and Cultural Matters introduced an option for the copyright owners and beneficiaries to refer the dispute over the seven exceptions to one of the approved by the Ministry of Culture mediators. In case one of the parties does not accept the decision by the chosen mediator, the dispute may be settled by the Court of Appeal of Athens with no right of further appeal. In contrast, the exception relating to the privilege of making copies for private use was left totally to the mercy of the right holders' contractual arrangements.

---

61 Li-Dar Wang R., "DMCA anti-circumvention provisions in a different light: perspectives from transnational observation of five jurisdictions", [2006], *AIPLA Quarterly Journal*, 217, at 238.

62 Westkamp, G., "The Three-Step Test and Copyright Limitations in Europe: European Copyright Law between Approximation and National Decision Making", [2008], 56, *Journal of the Copyright Society of the USA*, 1, at 18.

63 *Ibid.*, at 21.

64 The law was adopted on September 24, 2002.

In Denmark,[65] Article 75d of the Copyright Act introduced only a mechanism with regard to the public policy exceptions. The private copying was not included. The Copyright Licence Board which usually deals with compulsory licensing issues provides the procedure which involves both arbitration and mediation elements. It is binding upon the parties to the adjudication. If the right holder does not comply with the decision of the Board, beneficiary is allowed to circumvent the technological measure without incurring any legal liability. In addition, the system permits also direct reference to the court, however, due to the cost and effort involved, it is suggested that the alternative dispute resolution might be more popular among the beneficiaries.

In Italy,[66] Article 71quinquies4 and Article 194bis provide for the conciliation mechanism in relation to public policy exceptions. This is only available in the absence of voluntary agreement between the beneficiaries and right holders. The parties can consult the Standing Consultation Committee on Copyright and request for a "compulsory attempt to conciliation". In case there is a deadlock and no agreement is reached between the parties. The Committee has to put the terms of the disagreement into writing and let a judge to find a solution. Remarkably, Article71sexies4 gives the right to users to make a one private copy in analogue form. Naturally, this provision applies regardless of the fact that there may be TPMs applied to the content.

In Germany,[67] the law makers did not introduce any alternative dispute resolution system. Instead, Article 95b(2) of the Author's Right Act forces the right holders to include in their contractual arrangements the right to claim "the means" which would allow the beneficiaries of the public policy exceptions to benefit from them. Of course, the concept of "means" was intentionally left open-ended in order to embrace new developments in technology. In addition, Article 2a and Article3a of the Act implement, as an alternative, the possibility for the beneficiaries to bring a class action in order to claim the necessary "means".

---

65 The law was adopted on December 17, 2002.

66 The law was adopted on April 9, 2003.

67 The law was adopted on July 11, 2003.

All in all, the various ways of implementation of Article 6(4) suggest the difficulty in dealing with the vague scope of Article 6(4). However, there is clearly a trend towards the alternative dispute resolution (ADR) system. It could be argued that this may have positive effects for both the right holders and users. They could avoid costly and time-consuming litigation in the ordinary courts.

With regard to the efficiency of anti-circumvention laws, interestingly, the solutions chosen by the member states in the implementation of Article 6(4) suggest, potentially, an improvement. An improvement is to the extent that the right holders and beneficiaries thanks to the ADR systems may obtain a faster and cheaper decision. Hence less people would violate the anti-circumvention laws and refer their disputes to ADR instead.

Unfortunately, this change may be limited. Firstly, there might be cases where deadlock between the parties would take them back to the expensive and slow court system. Hence, in the long term, the system could deter more and more people who could turn to unauthorised circumvention in order to benefit from the copyright exceptions. Secondly, ADR system does not deal with the uncertainties regarding the role of contract law and the issue of the contractual waiver in the Article 6(4). In fact, in Italy the conciliation mechanism is only available in the absence of a voluntary agreement between the parties. In such a case, the beneficiaries might be forced to circumvent TPMs and expose themselves to the contractual liability in order to benefit from the copyright exceptions to which they might be entitled. Thus the anti-circumvention legislation in both these cases would fail to fulfil its purpose, namely to stop the unauthorised copying of and access to the protected content through the circumvention of effective TPMs.

More importantly, an improvement in the efficiency of the enforcement of the anti-circumvention laws through ADR could be also countered balanced by the lack of clarity in other sections of the Article 6. These uncertainties were discussed in the preceding sub-sections. Ultimately, due to these persisting interpretation issues, it is argued that the overall efficiency of the provisions on the legal protection of TPMs might decrease in the

face of the new cloud-computing technology. It is submitted that on the new computing platform the old legal problems could intensify.

4.1.2. Enforcement of Foreign Judgments

In this section the author considers how the issues related to enforcement of foreign judgments, in the cloud-computing world could affect the effectiveness of the provisions on the legal protection of TPMs. However, it is not the author's intention to discuss in any detail the issues in the interpretation of the international or national instruments on the enforcement of foreign judgments. Instead, the attention is given to the attitudes of the judiciary in different countries towards enforcement of foreign judgments.

Nevertheless, firstly, it is important to briefly outline the background to the problem. The Internet is a network of networks. It does not respect the national borders. Moreover, it could be said that it does not respect the national laws either. There are millions of people from all over the world using the web and more are joining every day. Some of them may be manufacturing and distributing circumvention devices allowing for unauthorised access to or copying of the protected content. These people or companies may be located literally anywhere where there is an access to the net and still be able to proliferate their products with the same effectiveness. For these reasons the online environment creates unique issues for copyright law. Naturally, there is a problem with bringing a legal action against every person that circumvents TPMs violating the anti-circumvention rules. In fact, it is impossible to do it in practice. The right holders do not have enough resources to accomplish this task successfully. However, the author wants touch upon another problem. It is the issue of enforcement of foreign judgments throughout all the states where somebody is, for example, manufacturing devices designed primarily to circumvent effective TPMs.

It is interesting that the U.S. Congress and EU bodies are very willing to legislate extraterritorially.[68] However, when it comes to enforce foreign judgments on their territory, in particular U.S., was condemned as hypocritical.[69] In fact, the U.S. courts are particularly uncompromising in asserting jurisdiction over the foreign companies.[70] Unfortunately, in many cases the foreign courts refuse to enforce their judgments. The brightest example of that situation was a failure by the U.S. to have a Russian court enforce the anti-circumvention provisions of DMCA against a Russian software company – Elcomsoft.[71] It sold a program that disabled encryption of Adobe eBook documents. This outcome was described as a blow to DMCA.[72]

The above situation suggests that the effectiveness of anti-circumvention laws is unsatisfactory when it comes to violations that are based abroad. It is submitted that this situation may not improve in the cloud-computing world. In contrast, it is contended that the new unexpected legal problems might arise and make the enforcement of foreign judgments even more troublesome. For example the uncertain issue of RAC, as analysed above, could be one of such new problems. As a result, cloud-computing could decrease the effectiveness of the law even further.

In addition, the author would like to note that the issue of enforcement of foreign judgments could affect the applicability of the anti-circumvention laws in the cloud-computing world. It is suggested that the right holders could have a great incentive to turn to contract law and TPMs as a means of vindicating their rights in the cloud.[73] This may

---

[68] The U.S. Children's On-line Protection Act does not only apply to U.S. Websites. It also applies to foreign content providers that target U.S. children. Likewise, the European Union's Data Privacy Directive 95/46/EC has pressured states from outside of the EU to enact adequate measures in order to protect personal information that is transferred to their territory.

[69] See Crane W., "The World-wide Jurisdiction: An Analysis of Over-inclusive Internet Jurisdictional Law and an Attempt by Congress to Fix it", [2001], 11, *Journal of Art & Entertainment Law* , 267, at 307. See also *United States Court of Appeals, Ninth Circuit. - 433 F.3d 1199, Yahoo! Inc. v. LICRA and UEJF, January 12, 2006 & Twentieth Century Fox Film Corp., et al. v. iCraveTV, et al.,* No. 00-120, 2000 U.S. Dist. LEXIS 1013 (W.D. Pa. 28.01.2000).

[70] According to Professor Geist, U.S. courts "have repeatedly applied U.S. law to foreign operators with little consideration for the governing law of the other jurisdiction." See Michael Geist, "Everybody Wants to Rule the Web", *The Globe and Mail*, 18.01.2001, available at <http://www.michaelgeist.ca/resc/html_bkup/jan182001.html> (viewed 20.12.2009).

[71] *U.S. v. Elcom Ltd.*, 203 F.Supp.2d 1111 (N.D. Cal. 2002), the judgment of the U.S. court was not enforced against a Russian software company which was marketing a device that circumvented a technological protection in Adobe's e-book reader software.

[72] Glasner J. ,"Verdict Seen As Blow to DMCA", *Wired*, 18.12.2002.

[73] The relationship between the contract law and technology will be further discussed in the next chapter.

be facilitated by TPMs which, as discussed above, could be more effective on cloud-computing platform. It is worth to mention, once more, at this point, that TPMs are a form of self-help. They are able to offer to the right holders an automatic enforcement without the need to concern themselves with different laws applicable in different countries. Thus the technological option could provide a great alternative to the anti-circumvention suits. Although the issues of enforceability of contracts may arise in countries where the alleged unauthorised circumvention took place, it could be dealt with by stipulating the applicable law of the right holder's jurisdiction. Unfortunately, there may be also cases where there is no contract between the right holder and the user that violates the access controls. In that case, the resort would have to be made to the anti-circumvention laws. Nevertheless, it could be still argued that these situations may be rare. It is submitted that only the technologically able would have sufficient skills to develop the appropriate tools to circumvent TPMs. Therefore it is suggested that technology and contract law could provide an answer to most of the situations where TPMs are bypassed. Importantly, this solution might be faster and cheaper than bringing the anti-circumvention lawsuit. For all these reasons it is contended that in the cloud-computing environment the anti-circumvention laws may be less applicable than at present.

4.2. Applicability

In the second section of this chapter the author presents three arguments supporting the thesis that the anti-circumvention laws may be less applicable in the cloud-computing world. The first sub-section titled “Case Law” relates to the contemporary case law scenarios which may no longer exist in the cloud-computing environment. The second sub-section on “Contract Law” shall discuss the potential for contract law to replace the anti-circumvention rules in the cloud. Finally, the third section called “Fair use” shall analyse how the applicability of the U.S. fair use doctrine could affect the applicability of the anti-circumvention laws on the new computing platform.

4.2.1. Case Law

If we look at the case law where the courts applied the anti-circumvention provisions, it is clear that circumstances in which the following disputes arose might not happen again due to a different nature of computing in the cloud. Therefore it may be argued that use of the provisions on the legal protection of TPMs could decrease. In contrast, it may be suggested that, even though, some fact-specific disputes may no longer exist in the cloud, other novel circumstances may reveal themselves. These could make DMCA and Copyright Directive equally or more necessary in the court rooms. Although this may happen, one could argue that the new situations might, in fact, be so new as to land outside of the scope of the current anti-circumvention rules. In that case, the rules could become less applicable. The new circumstances could be totally unexpected by the current system of laws. They might even require amendments to DMCA and Copyright Directive.

As to the case law, it is contended by the author that it may no longer be necessary to litigate a circumvention of RAC as in Sony's "PS2" game console case.[74] It is argued that in the cloud-computing environment where all content and software is hidden online behind many layers of TPMs, it may be easier for the right holders to rely on TPMs to detect and automatically disable any attempt to circumvent RAC. This could eliminate the need for involvement of courts in the matter. Naturally, the copyright owners could take a legal action against the manufacturers of the circumvention devices. However, it is submitted that the issues related to enforcement of foreign judgments, cost and time of a lawsuit, compared to instant self-enforcement through TPMs, might deter the right holders from litigation.

Likewise, it is argued that there may be no need for the copyright owners to sue a software companies that develop programs that circumvent a copy protection technology, as in the RealNetworks audio and video player software case.[75] It is submitted that the

---

74 *Sony Computer Entertainment America, Inc. v. Gamemasters, Inc.*, 87 F. Supp. 2d 976 (N.D. Cal. 1999).

75 *RealNetworks, Inc. v. Streambox, Inc.*, 2000 WL 127311 (W.D. Wash. 2000).

change from having to experiencing works could mean that many audio and video players like RealNetworks software would no longer have a purpose to exist. In the cloud the works would be streamed online without a need of having any sophisticated software on your access terminal or in your cloud account. It is suggested that all that may be provided by a content provider established in the cloud.[76] Indeed, this is the case of Spotify, the cloud service, which will be discussed later in the thesis. Of course, it may be said that there still may be a problem of some persons trying to make unauthorized copies of works that suppose to be experienced and not retained. However, this may be dealt with through TPMs. As mentioned already, in the highly protected cloud, TPMs might automatically deny the access to people trying to circumvent copy protection software. Hence TPMs could make the resort to law unnecessary.

In the next case, the subject matter of the suit was the source code of the software program, DeCSS, which could be used to circumvent the Content Scramble System employed in DVDs.[77] It is argued that the litigation regarding DVDs could be non-existent in the cloud for a one simple reason. The time for having DVDs has ended; the time for experiencing works began. In other words, there may no longer be a need to keep copies of your favorite works on your shelf. You might be able to stream them from the cloud at anytime, regardless of where your location.

4.2.2. Contract Law

As Professor Hugenholtz noted, contract law may be "a perfect alternative" to the copyright system of protection.[78] It is argued that in the Internet of cloud-computing the role of contract law may further increase. It is suggested that the mixture of contract law and TPMs might make copyright law less applicable. In particular, the recent legislation on the protection of TPMs may become less useful.

---

[76] For example see a music streaming service Spotify, available at <www.spotify.com> (viewed 19.12.2009).

[77] *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001), See also *321 Studios v. Metro Goldwyn Mayer Studios, Inc.*, 307 F.Supp.2d 1085 (N.D. Cal. 2004) The defendants in that case produced a software that allowed for circumvention of TPMs which controlled copying in the claimant's DVDs.

[78] Hugenholtz P.B., "Code as code, or the end of intellectual property as we know it", [1999], Vol. 6, No. 3, *Maastricht Journal of European and Comparative Law*, 308-318, at 310.

The contract law working in tandem with TPMs may provide the perfect circumstances for the creation of pay-per-view society where the works might no longer be sold in hard copies but they may be streamed directly from servers so the customers could enjoy them wherever and whenever they want to. Naturally, the new way of computing may have an important function in this transformation. It could provide the technical base for the pay-per-view society to exist. In addition, it may make TPMs to be a more efficient weapon against the online piracy.

As Professor Hugenholtz suggested, the World Wide Web is uniquely suited for the establishment of multitude of contractual relationships between different parties on the Internet. The 'textual' and interactive nature of the Internet provides the extraordinary circumstances in which contract law may grow.[79] This may allow the right holders to force users to accept the terms and conditions that impact heavily on the way the works might be used. It should be noted that most of the contracts that are entered into in the online world are in a standard form. The right holders with great market power may subject the powerless customers to their non-negotiable agreements. These are for instance shrink-wrap, click-wrap or browse-wrap licenses. Currently, almost all of the software developers are using End User License Agreements (EULAs) as a model of a license to which their customers are subjected to. This is an example of a contract of adhesion.[80] It does not result from the negotiations between the user and a software company.[81] This mass-market software license does not leave to the customers other choice but to "take it or leave it". In addition, this bad practice seems to be supported by the legal environment which does not require the right holders to assist the users in terms of, for example, private use exception.[82] Hence the copyright exceptions may become illusory in the online world. It is therefore argued by some that the copyright owners are

---

79 *Ibid.*

80 See Hillman R.A., Rachlinski J.J., "Standard-form Contracting in the Electronic Age", [2002], 77, New York University Law Review, 429.

81 For more information on EULA see Burke J.J.A., "Reinventing Contract", [2003], Vol. 10, No. 2, *Murdoch University Electronic Journal of Law*, at (para.) 18, available at <www.murdoch.edu.au/elaw/issues/v10n2/burke102_text.html> (viewed 20.12.2009).

82 Lucchi N., The Supremacy of Techno-Governance: Privatization of Digital Content and Consumer Protection in the Globalized Information Society, [2007], *International Journal of Law and Information Technology*, 192, at 216.

most likely to continue to use TPMs supported by contract law without taking care of the users' expectations.[83]

It means that in the society of tomorrow users may be forced to accept less favourable conditions than in the contemporary world. For instance in the pay-per-view society the online agreements might require the software to be used on only one machine.[84] You may be only able to make an occasional back up copy and no further copies.[85] Plus you could not be able to rent or lend works because you would only be able to experience them.[86] Furthermore, the customers may only be allowed to listed to the song X times, play a game Y times or copy a document only Z times.[87] In the future the licenses could become a common day thing. The society might heavily rely on digital goods such as access to the newspapers, periodicals, books, recorded music and computer software. We might have no other choice but to adjust to this new way of accessing and using the copyrighted works. It is submitted that this may jeopardise our fundamental freedoms. It could affect the statutory limitations related to copyright law that were discussed previously in this essay.[88] In fact, it could make them largely redundant.[89] It is even suggested by Hugenholtz that we may require an entire new body of information law to protect the public domain.[90]

Therefore contract law, arguably, could marginalise the anti-circumvention legislation. It could flourish in the cloud-computing environment and shape the way we use and access copyrighted content thanks to TPMs. It could make resorting to legal measures totally unnecessary. The fully controlled and automated system provides a cheaper and faster alternative to the slow and expensive litigation. It is contended that the right holders might just buy into it.

---

83 *Ibid.*, at 211.
84 Supra note 78 at 310.
85 Supra note 78 at 311.
86 Supra note 78 at 311.
87 Supra note 78 at 319.
88 See the Chapter on the Anti-circumvention Provisions under DMCA and Copyright Directive.
89 Supra note 78 at 308.
90 Supra note 78 at 308.

However, there are still unresolved issues with the online agreements. It is still uncertain whether all of the contracts entered into over the Internet are valid under the law.[91] It is suggested they are valid in principle.[92] In *ProCD, Inc v Zeidenberg*[93], a case concerning shrink-wrap licence, the defendant claimed not to be bound by the license contained on the CD-ROM. He argued that he did not see the terms and conditions of the license when the contract was entered into at the time of the purchase. The court held that he was bound by the license because he had a right to return the CD-ROM, if he disagreed with the terms of the contract. It was also held that since the "[the] software splashed the license on the screen and would not let the [user] proceed without indicating acceptance"[94] the defendant had a sufficient notice of its terms. In contrast, in *Specht v Netscape Communications Corp.*[95], a case regarding browse-wrap license, it was held that the terms and conditions placed on submerged screen were invalid because insufficient notice was given to the customer. Similarly, in the UK, in *Beta Computers v Adode Systems*[96] it was held that in order for there to be an acceptance of the terms of the license, the license cannot be hidden. This suggests that it is still unresolved whether the browse-wrap licenses are legally enforceable in Europe.

On the other hand, it might be argued that all of the above issues may be irrelevant all together because of the market power of the public itself. It is submitted that the invisible hand of the market could prevent the emergence of the pay-per-view society. [97] It is suggested that customers would rebel against the practices that affect their fundamental freedoms and the ability to use and access the copyrighted works on the terms less favourable than at present. They could turn to the cloud providers who would respect their rights. Hence the competition would eliminate the unwanted products. This argument is plausible. Indeed, there are instances of public protesting against certain

---

91 Johnson P., "All wrapped up? A review of the enforceability of shrink-wrap and click-wrap licenses in the UK and US", [2003], *European Intellectual Property Review*, 98, at 99.

92 Prins J.E.J., "Contracting in an On-line Marketplace", in Bekkers V. (eds.), *Emerging Electronic Highways* (1st ed., Kluwer Law International, Hague, 1996) at 144-148.

93 86 F.3d 1447 (7th Cir., 1996).

94 *Ibid.*, at 1452.

95 150 F. Supp. 2d 585 (S.D.N.Y.2001).

96 [1996] FSR 371.

97 Easterbrook F.H., "Cyberspace and the Law of the Horse", [1996], *University of Chicago Legal Forum*, 207, at 214-215.

forms of behaviour in the web.[98] However, this view assumes, so called, perfect competition between the different companies who produce different TPMs and accommodate the copyright limitation in a different way. It is submitted that such assumption is questionable. There are many factors in the market that may lead to the market failures that could prevent a well-functioning competition. Although the detailed economic analysis is not within the scope of this essay, factors such as information asymmetries, indirect network effects, high switching costs and lock-ins can be mentioned as only few examples of possible problems leading to the total lack of market response to the restrictive measures taken by the copyright holders.[99]

What is more, it is argued in the Europe and U.S. that the above tension between TPMs working in tandem with contract law and copyright limitations is not really a problem at all. It is contended that there might always exist a black market over the Internet and all of the content protected by various TPMs in the cloud could be available in the unencrypted form as well. The reason for this situation may be the fact that technology could never be able to cordon off the copyrighted content completely. Accordingly, the P2P networks would continue to be present in the net. In the future, it could be still possible to capture movies and photos from the computer screen. As to the music, it might be also possible to re-record it from a loudspeaker.[100]

Nevertheless, it is still a million dollar (or more) question whether our society has a choice not to accept a new business model of pay per use society which could be facilitated by the change in the way of computing.

All in all, the author argues that the role of contract law and TPMs might increase in the cloud-computing environment. That could push the anti-circumvention provisions to the backstage. Hence make them less applicable in the fight against the digital piracy. As

---

98 See the protests of various privacy groups against the change of privacy settings on Facebook.com, BBC report is available at <http://news.bbc.co.uk/2/hi/technology/8420431.stm> (viewed 20.12.2009).

99 For a detailed economic analysis see Elkin-Koren N., "Copyrights in Cyberspace -- Rights Without Laws?", [1998], 73, *Chicago-Kent Law Review*, 1155 , at 1182-1185.

100 Bechtold S., "Digital Rights Management in the United States and Europe, [2004], *American Journal of Comparative Law*, 323, at 363.

Professor Samuelson suggested, in that future world copyright law would only provide the fundamental rationale for the right holders' ability to control use of and access to their works in the cloud.[101]

Although even in the pay-per-view society the anti-circumvention laws might be relevant to certain circumstances, it is argued that these circumstances could be rare. It is contended that there may be situations where contract law does not apply or the shrink-wrap license is held invalid. In such a case, the right holders may have little choice but to apply the anti-circumvention provisions to stop a person from infringing the copyright in the work in question. However, contract law might not apply, only if, a hacker circumvents TPMs. It is suggested that this may not be a common thing since a technologically able person is not a common thing either. It is rather a limited phenomenon. Moreover, the problems with validity of the online licenses may be rare, if you look at the efforts of the legislature, especially in the U.S.,[102] to make them enforceable. It is argued that the judiciary could follow the suite.

Moreover, the issue of ability of contract law to waive the copyright limitations is still uncertain. Therefore the copyright owners in some circumstances may prefer to rely on the anti-circumvention provisions, as oppose to contract law, or they may simply pursue both actions at the same time in order to increase their chance of success. However, in order to pursue both actions at the same time one has to pay more money. Thus, not all of the right holders might be able to afford the cost. Although there are uncertainties related to the contractual waiver, there are also uncertainties in the anti-circumvention laws which affect their effectiveness. It is not clear whether or not the copyright holders would prefer one cause of action over the other.

What is more, it is suggested that in the pay-per-view society there still could be persons developing the circumvention devices enabling for lawful and unlawful circumvention.

---

101 Supra note 8 at 125.

102 The Uniform Computer Information Transactions Act 1999. However, only Virginia and Maryland actually implemented this proposed model law. See Rambarran I.A., "Are Browse-Wrap Agreements All Theyr Are Wrapped Up to Be?", [2006], *bepress Legal Series*, Paper 1885, at 1 available at <http://law.bepress.com/cgi/viewcontent.cgi?article=8991&context=expresso> (viewed 20 Dec. 2009)

The right holders may again be forced to use DMCA or Copyright Directive in these cases. However, it is submitted that only technologically able could be able to develop these devices. As said previously, people like that are not numerous. Hence the use of DMCA and Copyright Directive might be rare as well.

Furthermore, it may be argued that in the pay-per-view society the unskilled public may have no other choice but to solely rely on the circumvention devices produced by technologically able, for example, to make a back up copy for the private use. Hence also the demand for these devices could be on the increase and so could be the litigation relating to them. On the other hand, it could be suggested that in the cloud-computing world, unlike today, it may be much more difficult to circumvent TPMs that are placed on the servers rather than on the CD-ROMs that a person can purchase and take home. Therefore it is submitted that even less people would have enough skills to manufacture devices necessary to access the content online. In that case, the high demand from the public for this type of software might not be met by the enough supply from the market. According to this scenario, the litigation regarding anti-circumvention provisions may be on decrease.

4.2.3. Fair Use Doctrine

Copyright law was designed to strike a balance between the interests of authors of creative works and the public. According to the economic rationale of copyright law the right holders are to be provided with a reward for their skill and judgment expended in the creation of new works.[103] The reward, namely the legal protection of their exclusive rights under copyright law, is an incentive for authors to keep on creating new works. The justification for the copyright protection is that it benefits the public domain. Firstly, the works which statutory protection expired fall into, so called, public sphere where anyone can use them in any way he or she wishes to. Secondly, even before the protection ends a person is able to use the copyrighted works either for a fee or in

[103] Fitzgerald B.F., "Digital Property: the ultimate boundary?", [2001], *Roger Williams University Law Review*, 47 at 50-53.

accordance with the fair use doctrine. The latter allows a person to use a work without a need to obtain the permission of the right holder as long as the use in question does not affect unreasonably the interest of that right holder.

In this section, the author focuses on the issue of fair use and its relationship with TPMs in the cloud-computing environment. It is submitted that the applicability of anti-circumvention provisions might depend on the way the fair use doctrine is implemented in the context of DMCA.

It is contended that the fair use doctrine solely applies to the copyright infringement lawsuits. In contrast, DMCA as well as Copyright Directive, arguably, create an entirely new cause of action that the right holders can use to prevent unauthorized use of and access to their works, whether infringing or not.[104] In other words, neither DMCA nor Copyright Directive provide for the 'fair circumvention' of TPMs that control access to the protected content.[105] On the other hand, it could be contended that the legal protection of TPMs under DMCA prohibits only circumvention of access measures to a 'work', namely copyrighted material.[106] Therefore it is suggested that at least circumvention of access controls to non-copyrighted material is impliedly allowed. However, it is unclear whether a free-standing prohibition on circumvention of access controls under Copyright Directive can deny a user access to unprotected material from the public domain.[107]

Although the statute[108] and judicial rulings[109] established that the fair use defence is not applicable to the anti-circumvention provisions under DMCA, the recent judgments seem to provide a different interpretation of the law. In *Chamberlain Group, Inc. v. Skylink Technologies, Inc.*[110], the Federal Circuit held that DMCA does not prohibit non-infringing circumvention of access controls. Likewise, in *Lexmark International Inc. v.*

---

104 Matesky M.P., "The Digital Millennium Copyright Act and non-infringing use: can mandatory labelling of digital media products keep the sky from falling?", [2005], *Chicago-Kent Law Review*, 515, at 528.

105 DMCA, §1201(a)(1)(A), Copyright Directive, Article 6.

106 Supra note 12 at 175.

107 Supra note 12 at 175.

108 DMCA, § 1201(c)(1).

109 *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 443- 44, 60 U.S.P.Q.2d (BNA) 1953, 1961-62 (2d Cir. 2001).

110 381 F.3d 1178, 1204, 72 U.S.P.Q.2d (BNA) 1225, 1244 (Fed. Cir. 2004).

Static Control Components, Inc.[111], the Sixth Circuit upheld the legality of circumvention for interoperability between competing products. These cases mean that a person can circumvent TPMs that control access to the unprotected material from the public domain. More importantly, it suggests that the 'fair circumvention' concept is, in fact, being developed in the American jurisprudence.

However, the uncertainty persists. There are numerous cases holding expressly that the fair use doctrine does not apply in the context of DMCA.[112] The lack of clarity in the application of the doctrine to the anti-circumvention laws may cause plenty of litigation. It is submitted that the use of the anti-circumvention provisions may depend on whether or not the right holders accommodate the fair use into their TPMs that control access to the content online. If they fail to do it, they may be forced by the beneficiaries of the doctrine, who would circumvent TPMs to exercise their fair uses, to take many more anti-circumvention actions in order to determine the boundaries of fair circumvention. However, there is nothing to deter the copyright owners from taking positive steps to provide for the application of the doctrine. In fact, some commentators suggest that the fair use is not a 'free use'.[113] Therefore the right holders could charge users for the ability to benefit from the new 'fared use'. This would give them the economic incentive they need to provide for the fair use in the cloud. It could limit the amount of litigation that they would have to engage themselves with otherwise. Since the users would be able to benefit from the fared use, they would not have to circumvent the access controls anymore unless in some rare and novel circumstances. Moreover, it is argued that the fared use could, in fact, cost the public less.[114] In the pay-per-view society the right holders would be able to charge for the fair use, only if, a person that wants to benefit from it and only when that person actually uses the work accordingly.

On the other hand, Koelman argues that "[I]t appears to be impossible to reconcile an effective protection of TPMs with (all) the limitations on copyright. Technology--at this

---

111 387 F.3d 522, 546-49, 72 U.S.P.Q.2d (BNA) 1839, 1856-58 (6th Cir. 2004).

112 For example in *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294, 322 (S.D.N.Y. 2000), the court held that "[i]f Congress had meant the fair use defense to apply to such actions, it would have said so.".

113 España M., "The Fallacy that fair use and information should be provided for free: an analysis of the responses to the DMCA's section 1201", [2003], *Fordham Urban Law Journal*, 135, at 191-206.

114 Supra note 21 at 127.

stage-- is simply too crude to accommodate all the subtleties of the law."[115] Yet, in Europe the steps were already taken in this direction. It should be noted that, as discussed previously, Copyright Directive imposes an obligation on the member states under Article 6(4) to take appropriate measures and provide for the exceptions to the anti-circumvention laws in case the right holders fail to do so themselves. Although it does not require to accommodate all the copyright limitations into the system, it certainly creates a starting point for the future. In contrast, DMCA leaves users on their own to obtain and circumvent TPMs and get access in the circumstances provided under the statute. Although the Article 6(4) do not relate to the fair use doctrine, it shows the positive approach taken in Europe that might limit the litigation. It is suggested that this kind of approach should be also taken in the U.S. with regard to the exceptions under DMCA and fair use doctrine. Professor Cohen is one of the proponents of that view. She argues that providing for the uses that are lawful according to the doctrine should be a prerequisite of protection under section 1201 of DMCA.[116]

What is more, other commentators suggest that, so called, "a reverse notice and take down regime" should be introduced to enable the public to benefit from the exceptions provided for them by the legislation.[117] This solution could also make the anti-circumvention rules less applicable to the online world. According to that view, users would notify the right holders that they are unable to benefit from a particular exception to copyright law. Then the right holders would take down the technological protection which blocks that particular fair use of their work. Hence the both sides would be satisfied with the result. The users would be able to exercise their rights, while the copyright owners would be able to keep an eye on and control over the whole system. This way the disputes about the ability to use a particular exception could be resolved ex ante without a need to resolve to the legal system. However, it should be said that this approach might require from the copyright owners resources in order to accommodate all

---

115 Koelman K., "The Protection of Technological Measures vs. the Copyright Limitations", in *Adjuncts and Alternatives to Copyright: Proceedings of the ALAI Congress*, June 13-17, 2001, 448 (Ginsburg J.C. & Besek J.M. eds., 2002) at 448.

116 Cohen J., "Some Reflections on Copyright Management Systems and Laws Designed to Protect Them", [1997], 12, *Berkeley Technology Law Journal* , 161, at 176.

117 Samuelson P., Dinwoodie G.B., Reichman J.H., "A reverse notice and take down regime to enable public interest uses of technically protected copyrighted works", [2007], *Berkeley Technology Law Journal*, 981, at 985.

the notifications from the public. Therefore they may be more inclined to try and contract around the exceptions provided for example in the Article 6(4) of the Copyright Directive. This possibility was already analysed in the chapter above. Interestingly, this scenario may also lead to the anti-circumvention laws being less applicable in the future.

Finally, the author discusses one more example of the solution which could make the anti-circumvention laws less applicable to the online world. Although the government does not have to influence the technical development of TPMs directly, it is argued that it should use its discretion to limit the scope of application of the provisions on the legal protection of TPMs so as to allow for the fair uses of the works. This solution could give users "the right to hack".[118] They would be allowed to circumvent TPMs in special cases established by the law makers. Nevertheless, changes in law could not be enough to help users. As suggested previously, most consumers may not have the necessary know-how to circumvent TPMs. Thus the legislation might have to allow for some circumvention tools to be manufactured in order to make the fair uses available to all the consumers. However, legislature, at that point, could face a problem of drawing the clear line between the devices which are allowed and these which are not permitted. However, the legal test where a judge has to determine what is "a primary purpose" of the particular device may be too uncertain to be used as a benchmark. Due to the fact that most of the circumvention tools can perform both the legitimate circumvention and the unauthorised one, there is a risk of allowing for a mass-scale piracy.[119] This would make the anti-circumvention system of laws meaningless.[120]

It is submitted that the law makers must be careful as to which solution is chosen and how it is shaped. There are many risks involved in allowing a too broad fair use doctrine to be implemented into the system. The correct system could make the anti-circumvention less applicable but the wrong one could make them futile altogether.

---

118 Supra note 100 at 371-374.
119 Supra note 78 at 317.
120 Supra note 36 at 274.

4.3.Spotify

In this section the author wants to describe an example of a cloud-computing service. It is a new business model based on contract law and TPMs. It is argued that Spotify also accommodates some exceptions to copyright law or fair uses, as you may call them in the U.S.. Although it is not a pay-per-view service, it could have a similar effect. It is argued that it might make the provisions under DMCA and Copyright Directive less applicable and less effective.

Spotify Ltd.[121] is a European based company. It was founded in 2006 by a Swedish computer scientist and entrepreneur Daniel Ek. It is a music streaming service which allows users to listen to their favourite music instantly. Its ad-supported beta version is available for free. However, you have to listen to commercial adverts every 20 minutes. Naturally, you can also buy a premium account. The price is very affordable. It is a flat fee of approximately 15 U.S. dollars a month. Moreover, Spotify's parent company is in Luxemburg, whilst the headquarters are based in the UK and Sweden. The service is also available in Norway, Finland, France and Spain.[122] In addition, the company is planning to expand its business to the U.S. in the early 2010.[123]

It is a cloud service that is protected by copying and access control TPMs. The terms and conditions of EULA prohibit circumvention of these TPMs. In these circumstances, the right holders could use TPMs supported by the license rather than the anti-circumvention litigation to enforce their rights. As argued previously, this type of system might to some extent marginalise the use of copyright law.

What is more, Spotify, arguably, accommodates within its system some exceptions to copyright law. Hence it could make it less prone to the circumvention by the users. It is contended that this might also make the application of the anti-circumvention laws less

---

121 <www.spotify.com> (viewed 20.12.2009).

122 <www.spotify.com/en/help/faq/#availability> (viewed 20.12.2009).

123 Milian M., "Music Streaming App Spotify comes to the U.S. early next year", *Los Angeles Times*, 25.11.2009, available at <latimesblogs.latimes.com/technology/2009/11/spotify-us-release.html> (viewed 20.12.2009).

necessary because the customers would be satisfied with the fair uses which they are already allowed to make and refrain from circumventing the system by themselves. If users would circumvent the system without appropriate permission, the right holders would be forced to litigate. These exceptions are as follows.[124] Spotify allows for posting user generated playlists over the social networking websites like Facebook.com. This gets rid of the problem of TPMs which impose limits in respect of the number of machines that the MP3s bought and downloaded from the online store can be used on. This restricts the users' rights. Furthermore, Spotify allows for creating playlists with cached songs which can be accessed offline in case your connection goes down or you are at your summer house. It is also possible to transfer these cached files to another device like mobile phone[125] or MP3 player. It is contended that this permits private copying by customers. Finally, the service makes it possible to buy MP3s or albums. This, arguably, provides for the ability to make a back up copy of a song for an extra fee. This is a kind of fair use transformed into fared use, as discussed above.

Moreover, the service provided by Spotify turned up to be extremely popular. It was launched in 2008. Within less than two years it has attracted "more than two million users in the UK, and more than six million across Europe.".[126] It has one million users in Sweden alone where the population is only nine million![127] What is its secret? The service, arguably, is much more simple and user-friendly than any other P2P file sharing program.[128] In fact, Mr. Ek claims that Spotify will kill illegal file-sharing.[129] It could provide an alternative to music piracy, especially, due to the availability of the freepremium version and access to tens of thousands of old forgotten classics and new releases. Therefore it is contended that this is a second reason why Spotify could make

---

124 These can be seen from the Terms and Conditions of Spotify's EULA, available at <www.spotify.com/en/legal/premium-code-terms-and-conditions/> (viewed 20.12.2009).

125 Spotify is also available on cell phones with the Internet access. See Cellan-Jones R., "Spotify launches on mobile phones", 07.09.2009, *BBC Website,* available at <http://news.bbc.co.uk/2/hi/technology/8241523.stm> (viewed 20.12.2009).

126 "Spotify app approved for iPhone", 27.08.2009, *BBC Website,* available at <http://news.bbc.co.uk/2/hi/8225731.stm> (viewed 20.12.2009).

127 *Ibid.*

128 Cellan-Jones R., "Will Spotify change the music biz?", *BBC Website,* 26.02.2009, available at <http://news.bbc.co.uk/2/hi/technology/7913959.stm> (viewed 20.12.2009).

129 Yiannopoulos M., "Daniel Ek: Spotify will kill file-sharing, be a European home-run", 18.09.2009, *Tech Crunch,* available at <http://eu.techcrunch.com/2009/09/18/daniel-ek-spotify-will-kill-file-sharing-be-a-european-home-run/> (viewed 20.12.2009).

the anti-circumvention rules less applicable to the online world. Less piracy could mean less use of the law that fights it.

As to the effectiveness of the anti-circumvention laws in the light of Spotify, it is argued that the uncertainties in the meaning of "an effective technological measure" should be discussed. It is argued that the interpretation of this term differs among different states. Spotify employs RAC, amongst other reasons, to block people from using the service in the countries where it is not yet available. As mentioned previously, England and Australia have diverse opinions regarding the status of RAC. The English court ruled that the circumvention of RAC is prohibited under the national implementation of the Copyright Directive. On the other hand, Australian court held to the contrary. It is argued that this uncertainty could make the anti-circumvention laws less effective. If we assume that a person in Australia, where the service is not yet provided, circumvents Spotify's RAC to access the service, Spotify could launch a legal action under the English anti-circumvention legislation against that Australian. However, even though, under the English law Spotify would be a successful party, under the Australian law, if it is found applicable to the dispute, Spotify would fail. Thus it could decrease the efficiency of the English law.

5.Conclusion

All in all, cloud-computing has the potential to change the way we communicate. Moreover, it could facilitate the creation of the pay-per-view society proclaimed by many before. Cloud-computing is not just an idea anymore. At present, there are already many websites working in the cloud. In fact, it may be argued that the most successful and popular sites in the net are using the cloud system. The best examples are Facebook.com, YouTube.com and GMail.com. They are the beginning of the new stage in the evolution of the World Wide Web. It is contended that they may provide a cheaper and more secure way of storing all the data. In particular, the copyrighted works might be better protected from online pirates in the cloud. It is suggested that TPMs could be more efficient in the centralised system of mainframe computers running the web. It is argued further that, in the future, copyright law may be replaced to great extent by the lex informatica working in tandem with contract law. In other words, due to the increased efficiency of TPMs, the enforcement of the rights of right holders could be cheaper and faster. Indeed, TPMs might provide the means of automatic enforcement without the need of recourse to the slow and expensive courtrooms. As Professor Samuelson argued, copyright law could become a part of window-dressing. It could simply provide the legitimacy for the operation of TPMs and contract law that could take the primary role in the online environment. In other words, the efficiency and applicability of the provisions on the legal protection of TPMs could decrease. However, it may not be diminished. There still may be rare situations where TPMs could fail and there would be no contract between the parties in question. In these circumstances the only remedy would lie with the anti-circumvention laws.

The author presented two main arguments as to why the provisions under DMCA and Copyright Directive could be less effective.

Firstly, the uncertainties in the anti-circumvention legislation could affect the effectiveness of these laws in the cloud. In particular, there is a vague meaning of the

terms “circumvention” and “an effective technological measure”. We should also not forget about the lack of clarity in “a primary purpose” test which determines the circumvention devices that fall within the scope of the prohibition under DMCA. Importantly, there is a problem of complexity with the Article 6(4) of the Copyright Directive. Although there is a trend among the member states to provide ADR to resolve the disputes relating to the seven exceptions faster and cheaper, it is contended that ADR fails to accommodate all the problems in the Article. For example ADR does not deal with the issue of contractual waiver of the copyright limitations. In fact, in Italy the conciliation mechanism is only available in the absence of the contractual arrangement between the right holders and beneficiaries. In the situation of an existing license, the beneficiaries might be forced to circumvent TPMs by themselves in order to exercise the fair uses they might be entitled to. Hence the anti-circumvention legislation would fail to fulfil its role.

Secondly, it is suggested that the issues related to enforcement of foreign judgments might be another factor that could decrease the effectiveness of the anti-circumvention laws. There is no point of having the legal protection of TPMs, if it does not provide international protection which is crucial in the borderless Internet. The bright example of that problem was a failure to enforce the U.S. judgment against the Russian software company which produced circumvention devices in the violation of the U.S. Anti-circumvention laws. This result was later described rightfully as a blow to DMCA.

The author also argued that the applicability of the anti-circumvention laws could decrease. The three main reasons were submitted accordingly.

Firstly, if one looks at the contemporary case law it is clear that some types of litigation may be on the path to extinction. For instance there may be no place for hard copies of protected works such as DVDs or CD-ROMs in the pay-per-view society. Therefore any actions brought today against the manufacturers of the circumvention devices that affect TPMs placed on either DVDs or CD-ROMs could be inapplicable in the cloud-computing world.

Secondly, it is suggested that the importance of contract law working in tandem with TPMs could be on the increase in the cloud due to the two main reasons: the enhanced efficiency of the technological protection in the cloud service; and, the interactive and "textual" nature of the Internet which provides perfect conditions for the contractual arrangements to proliferate. These factors could push copyright law to the backstage and leave it applicable only to the rare cases where there is, for example, no contract between the parties in question.

Thirdly, it is submitted that the use of anti-circumvention laws in the cloud-computing world may depend on how the fair use doctrine is implemented on the new platform. It is suggested that if the right holders insert the doctrine into their system of TPMs, the litigation might decrease. It is argued that users would not have to circumvent TPMs in order to benefit from the copyright exceptions since these would be already provided for them by the right holders. Indeed, it is contended that this kind of approach might very well benefit both sides. The right holders could charge the users an extra fee for the ability to exercise the fair use privilege, whilst users would have the exceptions to the copyright law readily available for them, without having to make an effort to circumvent the system by themselves. Thus it is argued that such a user-friendly scenario is very likely to represent the future state of affairs. Indeed, Spotify, the new cloud service, arguably, already indicates the trend in this direction.

Although Spotify is not a pay-per-view society service, it might have a similar effect. It is submitted that it could decrease the applicability of anti-circumvention laws through promoting the use of the contractual arrangements and TPMs to control the access to and uses of the protected content. Hence it could confine the anti-circumvention laws to the rare cases where contract law does not apply. Moreover, Spotify might provide a viable alternative to the illegal P2P file sharing technologies by offering ad-supported freepremium access to the thousands of songs instantly. It is contended that less piracy could mean less use of the provisions under DMCA and Copyright Directive. What is

more, Spotify, arguably, implements into its system exceptions to copyright law which allow users to benefit from the fair uses of the protected works. For example it is possible to create playlists which are accessible offline in case you are at your summer house or your connection goes down. It is also possible to privately copy these playlists and transfer them to other devices. It is suggested that this could also decrease the litigation involving DMCA and Copyright Directive. The users might not circumvent TPMs in order to benefit from the copyright exceptions, if they are already allowed to benefit from these exceptions by the right holders. Finally, Spotify is also an example of the cloud service which could decrease the efficiency of the anti-circumvention laws in the cloud. Due to the fact that the status of RAC as "an effective technological protection measure" is uncertain, there may be situations where the enforcement of the anti-circumvention laws abroad is ineffective. This type of circumstances could arise, if the cloud service like Spotify, which is provided in England, is circumvented by a person in Australia. If the English law is held applicable to the dispute, the right holders may be successful. In contrast, if Australian law is held applicable, the user might not be liable. Thus the efficiency of the English implementation of the anti-circumvention laws could decrease.

6.Bibliography

List of Judgments/Decisions

Universal City Studios v. Reimerdes 111 F. Supp. 2d 294 (S.D.N.Y. 2000), aff'd sub nom. Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001).

Kabushiki Kaisha Sony Computer Entertainment Inc v Ball [2004] EWHC 1738 (Ch)

Eddy Stevens v. Kabushiki Kaisha Sony Computer Entertainment et al. (2005) 224 CLR 193

*Studios v. Metro-Goldwyn-Mayer Studios*No. C02-1955 SI, 2004 U.S. Dist. LEXIS 2771 (N.D. Cal. Feb. 19, 2004).

C*hamberlain Group v. Skylink Technologies* 381 F.3d 1178 (Fed. Cir. 2004)

IMS Inquiry Management Systems v. Berkshire Information Systems, 307 F. Supp. 2d 521 (S.D.N.Y. 2004)

*RealNetworks, Inc. v. Streambox, Inc.*2000 U.S. Dist. LEXIS 1889

Sony Corp. of America v. Universal City Studios 464 U.S. 417 (1984)

United States Court of Appeals, Ninth Circuit. - 433 F.3d 1199, Yahoo! Inc. v. LICRA and UEJF, January 12, 2006 & Twentieth Century Fox Film Corp., et al. v. iCraveTV, et al., No. 00-120, 2000 U.S. Dist. LEXIS 1013 (W.D. Pa. Jan. 28, 2000)

Universal City Studios, Inc. v. Corley, 273 F.3d 429, 60 U.S.P.Q.2d (BNA) 1953 (2d Cir. 2001)

*Lexmark International Inc. v. Static Control Components, Inc.*387 F.3d 522, 72 U.S.P.Q.2d (BNA) 1839 (6th Cir. 2004)

ProCD, Inc v Zeidenberg 86 F.3d 1447 (7th Cir., 1996)

*Specht v Netscape Communications Corp.*150 F. Supp. 2d 585 (S.D.N.Y.2001)

Sony Computer Entertainment America, Inc. v. Gamemasters, Inc., 87 F. Supp. 2d 976 (N.D. Cal. 1999)

RealNetworks, Inc. v. Streambox, Inc., 2000 WL 127311 (W.D. Wash. 2000)

321 *Studios v. Metro Goldwyn Mayer Studios, Inc.*, 307 F.Supp.2d 1085 (N.D. Cal. 2004)

U.S. v. Elcom Ltd., 203 F.Supp.2d 1111 (N.D. Cal. 2002),
Beta Computers v Adode Systems [1996] FSR 371
Universal City Studios v. Reimerdes, 111 F. Supp. 2d 294, 322 (S.D.N.Y. 2000)

Treaties/Statutes

WIPO Copyright Treaty adopted in Geneva on 20 December 1996, available at <www.wipo.int/clea/docs/en/wo/wo033en.html > (viewed 18 Dec., 2009)
WIPO Performances and Phonograms Treaty adopted in Geneva on 20 December 1996, available at <www.wipo.int/clea/docs/en/wo/wo034en.html> (viewed 18 Dec., 2009)

The Digital Millennium Copyright Act was signed into law by President Clinton on October 28, 1998

The Uniform Computer Information Transactions Act 1999

Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society (Official Journal No L167, 22.05.2001,10)
Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs (Official Journal No L 122, 14.05.1991, 42)

Books

Hugenholtz, P.B., *The Future of Copyright in a Digital Environment (*1st ed., Kluwer Law International, The Hague, 1996)
Mackaay E., *The Electronic Superhighway (* 1st ed., Kluwer Law International, The Hague, 1995)
Carr N., *The Big Switch: Rewiring the World, from Edison to Google,* (1st ed., W.W. Norton & Company, Inc, New York, 2008)
Becker E., *Digital Rights Management: Technological, Economic, Legal and Political Aspects,* (1st ed., Springer, Berlin, 2003)

MacQueen H., Waelde Ch., Laurie G., *Contemporary Intellectual Property: Law and Policy* (1st ed., Oxford University Press, Oxford, 2007)
Bekkers V., *Emerging Electronic Highways* (1st ed., Kluwer Law International, Hague, 1996)
Ginsburg J.C. & Besek J.M, *Adjuncts and Alternatives to Copyright: Proceedings of the ALAI Congress,* June 13-17, 2001

Journal Articles

Lessig L., "The Zones of Cyberspace", [1996], 48, *Stanford Law Review,* 1403
Besek J.M., "Anti-circumvention Laws and Copyright: A Report from the Kernochan Center for Law, Media and the Arts", [2004], *Columbia Journal of Law & the Arts,* 385
Esler B.W., "Protecting the Protection: A Trans-Atlantic Analysis of the Emerging Right to Technological Self-Help", [2003], *The Journal of Law and Technology,* 553
Ginsburg J.C., "Copyright Legislation for the Digital Millennium", [1999], 23, *Columbia-VLA Journal of Law & the Arts,* 137
Ginsburg J.C., "From Having Copies to Experiencing Works: the Development of an Access Right in U.S. Copyright Law", [2003], 50, *Journal of the Copyright Society of the USA,* 113
Cavoukian A., "Privacy in the clouds", [2009], Vol. 1, No. 1, *Identity in the Information Society,* 89
Romano B.J., "New Computing Strategy Sends Microsoft to Clouds", *Seattle Times,* October 28, 2008, A10
Smith D., "Google Plans to Make PCs History", *The Observer*, January 25, 2009, at 22, available at <www.guardian.co.uk/technology/2009/jan/25/google-drive-gdrive-internet> (visited 18 Dec. 2009)
Boone M.S., "What Ifs and Other Alternative Intellectual Property and Cyberlaw Stories, The past, present, and future of computing and its impact on digital rights management", [2008], *Michigan State Law Review*, 413
Koelman, K.J., "A hard nut to crack: the protection of technological measures", [2000], Vol. 22. No. 6, *European Intellectual Property Review,* 272

Favale M., Fine-tuning European Copyright Law to strike a balance between the rights of owners and users, [2008], *European Law Review*, 687

Braun N., The Interface between the protection of technological measures and the exercise of exceptions to copyright and related rights: comparing the situation in the United Stated and the European Community, [2003], *European Intellectual Property Review*, 496

Bechtold S., "Digital Rights Management in the United States and Europe", [2004], *American Journal of Comparative Law*, 323

Spindler G., "Europäisches Urheberrecht in der Informationsgesellschaft", [2002], *Gewerblicher Rechtsschutz und Urheberrecht*, 105

Carter E.L., "Harmonisation of Copyright Law in response to technological change: lessons from Europe about fair use and free expression", [2009], *University of La Verne Law Review*, 312

Li-Dar Wang R., "DMCA anti-circumvention provisions in a different light: perspectives from transnational observation of five jurisdictions", [2006], *AIPLA Quarterly Journal*, 217

Westkamp, G., "The Three-Step Test and Copyright Limitations in Europe: European Copyright Law between Approximation and National Decision Making", [2008], 56, *Journal of the Copyright Society of the USA*, 1

Crane W., "The World-wide Jurisdiction: An Analysis of Over-inclusive Internet Jurisdictional Law and an Attempt by Congress to Fix it", [2001], 11, *Journal of Art & Entertainment Law* , 267

Hugenholtz P.B., "Code as code, or the end of intellectual property as we know it", [1999], Vol. 6, No. 3, *Maastricht Journal of European and Comparative Law*, 308

Hillman R.A., Rachlinski J.J., "Standard-form Contracting in the Electronic Age", [2002], 77, *New York University Law Review*, 429

Burke J.J.A., "Reinventing Contract", [2003], Vol. 10, No. 2, *Murdoch University Electronic Journal of Law*, at (para.) 18, available at <www.murdoch.edu.au/elaw/issues/v10n2/burke102_text.html> (visited 20 Dec. 2009)

Lucchi N., The Supremacy of Techno-Governance: Privatization of Digital Content and Consumer Protection in the Globalized Information Society, [2007], *International Journal of Law and Information Technology*, 192

Johnson P., "All wrapped up? A review of the enforceability of shrink-wrap and click-wrap licenses in the UK and US", [2003], *European Intellectual Property Review*, 98

Easterbrook F.H., "Cyberspace and the Law of the Horse", [1996], *University of Chicago Legal Forum,* 207

Elkin-Koren N., "Copyrights in Cyberspace -- Rights Without Laws?", [1998], 73, *Chicago-Kent Law Review,* 1155

Bechtold S., "Digital Rights Management in the United States and Europe, [2004], *American Journal of Comparative Law*, 323

Fitzgerald B.F., "Digital Property: the ultimate boundary?", [2001], *Roger Williams University Law Review,* 47

Matesky M.P., "The Digital Millennium Copyright Act and non-infringing use: can mandatory labelling of digital media products keep the sky from falling?", [2005], *Chicago-Kent Law Review*, 515

España M., "The Fallacy that fair use and information should be provided for free: an analysis of the responses to the DMCA's section 1201", [2003], *Fordham Urban Law Journal*, 135

Cohen J., "Some Reflections on Copyright Management Systems and Laws Designed to Protect Them", [1997], 12, *Berkeley Technology Law Journal* , 161

Samuelson P., Dinwoodie G.B., Reichman J.H., "A reverse notice and take down regime to enable public interest uses of technically protected copyrighted works", [2007], *Berkeley Technology Law Journal*, 981

Rambarran I.A., "Are Browse-Wrap Agreements All Theyr Are Wrapped Up to Be?", [2006], *bepress Legal Series*, Paper 1885, available at <http://law.bepress.com/cgi/viewcontent.cgi?article=8991&context=expresso> (viewed 20 Dec. 2009)

World Wide Web

Personal Page of Richard Stallman an American Software Freedom Activist, <http://stallman.org/> (viewed 18 Dec. 2009)

Apple, available at <www.apple.com> (visited Sept. 18, 2009).

Google, available at <www.google.com> (visited Dec. 18, 2009)

Spotify, available at <www.spotify.com> (visited 19 Dec. 2009)

BBC Website, available at <http://news.bbc.co.uk> (viewed 20 Dec. 2009)

Los Angeles Times, available at <latimesblogs.latimes.com> (visited 20 Dec. 2009)

Tech Crunch, available at <http://eu.techcrunch.com/2009/09/18/daniel-ek-spotify-will-kill-file-sharing-be-a-european-home-run/> (viewed 20 Dec. 2009)

Enterprise Storage F., December 10, 2008, available at <www.enterprisestorageforum.com/ipstorage/features/article.php/3790381> (visited 19 Dec. 2009)

Wired, available at <www.wired.com/wired/archive/14.10/cloudware.html> (viewed 19 Dec. 2009)

The Globe and Mail, available at <http://www.michaelgeist.ca/resc/html_bkup/jan182001.html> (visited 20 Dec. 2009)